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Captain W. H. SMYTH, R.N., President, in the Chair.

The following communications were read :—

*REAPPEARANCE of ASTRÆA.*

Extract of a letter from Professor Schumacher to Mr. Hind, dated Altona, 1846. Nov. 27.

“ M. Otto Struve has already reobserved *Astræa*, which appears brighter than he expected she would.

	M.T. Pulkowa. h m s	R.A.	Dec.
1846 Nov. 4	17 58 49	193° 55' 28".4	-3° 14' 22".7
13	18 4 11	198° 12' 42".8	-4 47 41.6

These positions are free from parallax. The resulting corrections for M. D'Arrest's ephemeris are :—

	R.A.	Dec.
1846 Nov. 4	-1° 7' 5"	+0° 39' 3"
13	-1 8.1	+0 37.1."

*OBSERVATIONS of LE VERRIER'S Planet.**In the Meridian.*

HAMBURG.

(M. Rümker.)

	Hamburg M. T. h m s	R.A.	Dec.
1846 Nov. 15	6 13 43.7	327° 51' 1".6	-13° 33' 45".9
16	9 49.3	51° 23' 5	33 40.7
17	6 5 54.5	51 40.9	33 34.2
21	5 50 17.8	53 26.0	32 56.0
23	42 29.8	54 22.1	32 33.9
29	19 10.0	58 16.3	31 7.0
Dec. 1	11 24.0	327 59 46.0	30 36.3
2	7 31.6	328° 0 39.1	30 18.4
3	5 3 39.0	1 28.1	30 1.9
4	4 59 46.7	2 22.1	29 42.4
7	48 10.3	5 12.7	28 41.5
11	4 32 43.4	328° 9 25.1	-13 27 9.0

## LIVERPOOL.

## 5-foot Transit.

(Mr. Hartnup.)

		R.A.
		h m s
1846	Nov. 17	21 51 26.91
	28	51 50.44
	29	51 53.14
	30	51 56.44
	Dec. 3	52 6.23
	6	21 52 17.19

With Equatoreal and Micrometer.

## DURHAM.

(Professor Chevallier.)

	Greenwich M.T.	R.A.	No. of Obs.	N.P.D.	No. of Obs.
	h m	h m s		"	"
1846	Oct. 3	8 48	21 52 32.07	2	
	6	11 8	52 21.92	3	
		11 25	...	103 28 55.1	1
	10	7 50	...	30 27.2	2
		8 16	52 6.40	12	
	19	7 24	...	32 22.0	14 Approx.
		7 38	51 38.45	6	
	20	10 10	...	32 39.8	2
		10 25	51 37.95	14	
	26	10 21	...	33 33.5	2
		10 31	51 26.04	14	
	27	10 47	...	33 39.0	2 Faint.
		10 56	51 25.98	6	
	29	6 51	51 23.85	11	33 54.2
		6 1	51 23.11	3	33 57.0
	Nov. 7	7 26	51 19.62	13	34 9.9
		8 15	...	34 8.8	2
	10	6 3	...	34 3.3	3
		6 49	51 19.25	22	
	19	6 57	...	33 10.3	2
		7 50	51 31.49	6	
	21	5 58	...	32 53.5	2
	24	7 50	51 40.08	16	
		8 18	...	32 13.9	4
	27	8 1	...	31 36.4	2 Approx.
		9 6	51 48.26	4	
	30	7 4	51 56.57	20	30 50.5
	Dec. 1	6 10	...	30 28.8	5
		6 40	51 59.83	20	
	2	6 41	...	30 11.3	4
		7 11	52 3.21	20	
	4	7 34	...	29 34.2	2
		8 4	52 10.33	15	
	5	8 29	...	103 29 8.2	2 Faint.
		8 49	52 14.32	6	

Star of Comparison B.A.C. 7648.

Apparent place from Catalogue.

## MAKERSTOUN.

(Sir T. Brisbane and Mr. Brown.)

	Makerstoun M.T.	R.A.	No. of Obs.	N.P.D.	No. of Obs.
	h m	h m s		° ' "	
1846 Nov. 19	5 45	21 51 30.02	18	103 33 11.8	7
24	5 43	51 40.13	16	32 18.5	6
Dec. 1	5 10	51 59.61	15		
	5 12			30 31.8	5
2	5 9	52 2.90	16	30 14.9	5
4	5 3	52 9.95	16	103 29 36.9	5

Star of Comparison B.A.C. 7648. Apparent place from Catalogue.

## HARTWELL.

(Dr. Lee and Mr. Dell.)

	Hartwell M. T.	R.A.	Dec.	No. of Obs.
	h m s	h m s	° ' "	
1846 Nov. 18	6 51 0	21 51 28.72	-13 33 38.90	3
19	6 32 5	21 51 30.74	-13 33 28.52	5

Star of Comparison B.A.C. 7648. Apparent place from Catalogue.

Mr. Hartnup has furnished the following mean places of stars near the planet, for January 1, 1846,

B.A.C. 7648	Mag. (7.8)	Mag.	R.A.	Approx. N.P.D.
		h m s	h m s	° ' ''
		21 50 5.81	103 24	
		21 52 46.73	103 45	

which are well suited for observing the planet, with Boguslawsky's single-wire micrometer, and a low power.

Mr. Lassell forwarded a more complete account of his physical observations on Le Verrier's planet, with his Newtonian reflector, 2-feet aperture, mounted equatorially :—

- Oct. 3. He received an impression of a ring, not much open, and nearly at right angles to the parallel of daily motion. Speculum A and plane metallic reflector.
- 10. The same impression of a ring in the same direction. A minute star just steadily visible, with full aperture of 24 inches, powers 316 to 567, distance  $2\frac{1}{2}$  to 3 diameters, a little to the right, and *apparently below* the ring continued. Speculum B and Merz's prism.
- Nov. 10. The planet very like *Saturn*, as seen with a small telescope and low power, but much fainter. Same speculum and prism as before.
- 11. The planet still retains its appearance. A faint point of light considerably distant, in the direction of the ring and below it. Speculum A and plane reflector.

On these nights several persons saw the supposed ring, and all in the same direction, as shewn by independent diagrams.

- Nov. 30. A minute star above, and a little to the left of the continuation of the ring, distance 2 diameters. Speculum B and Merz's prism.

- Dec. 3. The same relative appearance exactly of planet and small star as on October 10th. The direction of the ring estimated at about  $70^{\circ}$  with the parallel of daily motion. The small star about 3 diameters distant and  $50^{\circ}$  N. following. Telescope as before.
4. No minute star visible, though carefully looked for. Telescope as before.

Mr. Lassell says that the points of light seen on October 10, November 30, and December 3, were, so far as he could judge, the same in appearance and brightness. There were no other stars in the immediate neighbourhood. Hence he conceives the probability is in favour of the star being a satellite.

With respect to the ring, Mr. Lassell says, that "he has never looked at the planet, under tolerable circumstances, without receiving the same impression of its existence;" and that so far as he can judge, the direction of the supposed ring makes a constant angle with the meridian, and not with the horizon: but this is not very certain.

In speaking of the quality of his telescope, Mr. Lassell says that he finds Merz's prism gives him more light than a plane reflector, and with no loss of distinctness, and that he has succeeded in bringing the foci of his exterior and inner surface to agree within a hundredth of an inch. The telescope shews 7 stars in, and 2 near, the trapezium of *Orion*, and so far approaches to *resolving* the nebula, that it shews "stars, the centres of nebulous clouds, scattered all over the nebula."

In confirmation of Mr. Lassell's idea that there is a ring about the new planet, Mr. Hind stated that the South Villa telescope shews it oblong, and that the major axis makes an angle of about  $30^{\circ}$  with the meridian.

*Reduction of TYCHO BRAHE's Observations of the Comet of 1590, with Elements deduced therefrom.* By Mr. Hind.

"The comet of 1590 was first perceived by Tycho Brahe on the evening of March 5, while he was employed in observing the planet *Venus*. It was situated near the Northern Fish, between *Aries* and *Andromeda*. The diameter of the head was three minutes, and a faint tail was visible, extending from  $7^{\circ}$  to  $10^{\circ}$ , and directed towards the zenith at about  $7^{\text{h}} 30^{\text{m}}$  p. m.

M. Pingré, in his *Cometographie*, t. i. p. 554, has given a series of observations on this comet made by Tycho, and extracted from a manuscript preserved at the Dépôt de la Marine, in Paris. The observations are detailed at considerable length in this manuscript, but the table in M. Pingré's work is an abstract made by Tycho himself, and I have used it as the basis of my calculations. For deducing the places of the comet, we have, the apparent times of observation at Uraniburg, the distances from known stars, and the declinations for the same times as these distances; also, in most cases, the comet's altitude, and frequently its azimuth from the